

# FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO  
Praxair, Inc.

AUTHORIZING THE OPERATION OF  
Praxair Texas City Plant  
Industrial Gases

LOCATED AT  
Galveston County, Texas  
Latitude 29° 22' 43" Longitude 94° 54' 9"  
Regulated Entity Number: RN100220599

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No:     O1557     Issuance Date: \_\_\_\_\_

---

For the Commission

## Table of Contents

<b>Section</b>	<b>Page</b>
General Terms and Conditions .....	1
Special Terms and Conditions .....	1
Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting.....	1
New Source Review Authorization Requirements.....	8
Compliance Requirements .....	9
Protection of Stratospheric Ozone .....	11
Permit Location.....	11
Permit Shield (30 TAC § 122.148) .....	11
Attachments.....	12
Applicable Requirements Summary.....	13
Permit Shield .....	19
New Source Review Authorization References .....	21
Appendix A .....	24
Acronym List.....	25
Appendix B.....	26

## **General Terms and Conditions**

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

## **Special Terms and Conditions:**

### **Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting**

1. Permit holder shall comply with the following requirements:
  - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
  - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.
  - C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

- D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.
- E. Emission units subject to 40 CFR Part 63, Subpart ZZZZ, as identified in the attached Applicable Requirements Summary table, are subject to 30 TAC Chapter 113, Subchapter C, §113.1090, which incorporates the 40 CFR Part 63 Subpart by reference.
- F. For the purpose of generating emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 1 (Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:
  - (i) Title 30 TAC § 101.302 (relating to General Provisions)
  - (ii) Title 30 TAC § 101.303 (relating to Emission Reduction Credit Generation Certification)
  - (iii) Title 30 TAC § 101.304 (relating to Mobile Emission Reduction Credit Generation and Certification)
  - (iv) Title 30 TAC § 101.309 (relating to Emission Credit Banking and Trading)
  - (v) The terms and conditions by which the emission limits are established to generate the reduction credit are applicable requirements of this permit
- G. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emission Cap and Trade Program) Requirements:
  - (i) Title 30 TAC § 101.352 (relating to General Provisions)
  - (ii) Title 30 TAC § 101.353 (relating to Allocation of Allowances)
  - (iii) Title 30 TAC § 101.354 (relating to Allowance Deductions)
  - (iv) Title 30 TAC § 101.356 (relating to Allowance Banking and Trading)
  - (v) Title 30 TAC § 101.358 (relating to Emission Monitoring and Compliance Demonstration)
  - (vi) Title 30 TAC § 101.359 (relating to Reporting)
  - (vii) Title 30 TAC § 101.360 (relating to Level of Activity Certification)
  - (viii) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit
- H. For the purpose of generating discrete emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 4 (Discrete Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:
  - (i) Title 30 TAC § 101.372 (relating to General Provisions)

- (ii) Title 30 TAC § 101.373 (relating to Discrete Emission Reduction Credit Generation and Certification)
- (iii) Title 30 TAC § 101.374 (relating to Mobile Discrete Emission Reduction Credit Generation and Certification)
- (iv) Title 30 TAC § 101.378 (relating to Discrete Emission Credit Banking and Trading)
- (v) The terms and conditions by which the emission limits are established to generate the discrete reduction credit are applicable requirements of this permit

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

- A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
- B. Title 30 TAC § 101.3 (relating to Circumvention)
- C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
- D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
- E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
- F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
- G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
- H. Title 30 TAC § 101.221 (relating to Operational Requirements)
- I. Title 30 TAC § 101.222 (relating to Demonstrations)
- J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

- A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:
  - (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)
  - (ii) Title 30 TAC § 111.111(a)(1)(E)

- (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
- (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO<sub>x</sub>, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the “Applicable Requirements Summary” attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:
  - (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.
  - (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
  - (3) Records of all observations shall be maintained.
  - (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer’s eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to

condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

- (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
- (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.
- (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)
- (iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO<sub>x</sub>, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:

- (1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure

containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.

- (2) Records of all observations shall be maintained.
- (3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
- (4) Compliance Certification:
  - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(7) and (a)(7)(A)
  - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader

- C. For visible emissions from all other sources not specified in 30 TAC § 111.111(a)(1), (4), or (7); the permit holder shall comply with the following requirements:
- (i) Title 30 TAC § 111.111(a)(8)(A) (relating to Requirements for Specified Sources)
  - (ii) Title 30 TAC § 111.111(a)(8)(B)(i) or (ii)
  - (iii) For a source subject to 30 TAC § 111.111(a)(8)(A), complying with 30 TAC § 111.111(a)(8)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO<sub>x</sub>, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:
    - (1) An observation of visible emissions from a source which is required to comply with 30 TAC § 111.111(a)(8)(A) shall be conducted at least once during each calendar quarter unless the source is not operating for the entire quarter.
    - (2) Records of all observations shall be maintained.
    - (3) Visible emissions observations of sources operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of sources operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each source in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each source during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
    - (4) Compliance Certification:
      - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(8) and (a)(8)(A)
      - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in

30 TAC § 111.111(a)(8)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- D. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).
- E. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
  - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)
  - (ii) Sources with an effective stack height ( $h_e$ ) less than the standard effective stack height ( $H_e$ ), must reduce the allowable emission level by multiplying it by  $[h_e/H_e]^2$  as required in 30 TAC § 111.151(b)
  - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
- 4. For storage vessels maintaining working pressure as specified in 30 TAC Chapter 115, Subchapter B, Division 1: Storage of Volatile Organic Compounds, the permit holder shall comply with the requirements of 30 TAC § 115.112(e)(1).
- 5. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

#### **New Source Review Authorization Requirements**

- 6. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
  - A. Are incorporated by reference into this permit as applicable requirements
  - B. Shall be located with this operating permit
  - C. Are not eligible for a permit shield

7. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.
8. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

### **Compliance Requirements**

9. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.
10. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:
  - A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:
    - (i) For sources in the Houston-Galveston-Brazoria Nonattainment area, 30 TAC § 117.9020:
      - (1) Title 30 TAC § 117.9020(2)(A), (C), and (D)
  - B. The permit holder shall comply with the Initial Control Plan unit listing requirement in 30 TAC § 117.350(c) and (c)(1).
  - C. The permit holder shall comply with the requirements of 30 TAC § 117.354 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.356 for Revision of Final Control Plan.
11. Use of Emission Credits to comply with applicable requirements:
  - A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:
    - (i) Title 30 TAC Chapter 115

- (ii) Title 30 TAC Chapter 117
  - (iii) Offsets for Title 30 TAC Chapter 116
- B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:
- (i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)(2)
  - (ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1
  - (iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)(2)
  - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122
  - (v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)
12. Use of Discrete Emission Credits to comply with the applicable requirements:
- A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:
- (i) Title 30 TAC Chapter 115
  - (ii) Title 30 TAC Chapter 117
  - (iii) If applicable, offsets for Title 30 TAC Chapter 116
  - (iv) Temporarily exceed state NSR permit allowables
- B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:
- (i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)
  - (ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4
  - (iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)
  - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

- (v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

### **Protection of Stratospheric Ozone**

- 13. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:
  - A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

### **Permit Location**

- 14. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

### **Permit Shield (30 TAC § 122.148)**

- 15. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

## **Attachments**

**Applicable Requirements Summary**

**Permit Shield**

**New Source Review Authorization References**

**Applicable Requirements Summary**

**Unit Summary** ..... 14

**Applicable Requirements Summary** ..... 15

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (§ 122.144), Reporting Terms and Conditions (§ 122.145), and Compliance Certification Terms and Conditions (§ 122.146) continue to apply.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusi ve Units	SOP Index No.	Regulation	Requirement Driver
FLARE	Flares	N/A	111A-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
GENERATOR	SRIC Engines	N/A	117B-1	30 TAC Chapter 117, Subchapter B	No changing attributes.
GENERATOR	SRIC Engines	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GENFOTANK	Storage Tanks/Vessels	N/A	115B-1	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRP-HEATERS	Process Heaters/Furnaces	HEATER, HYCO-HTR2	117B-1	30 TAC Chapter 117, Subchapter B	No changing attributes.
HYCO-HTR	Process Heaters/Furnaces	N/A	117B-1	30 TAC Chapter 117, Subchapter B	No changing attributes.

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition I.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
FLARE	EU	111A-1	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.11(a).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
GENERATOR	EU	117B-1	EXEMPT	30 TAC Chapter 117, Subchapter B	§ 117.303(a)(6)(D) [G]§ 117.310(f)	Units exempted from the provisions of this division, except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1), and 117.354(a)(5), include stationary gas turbines and stationary internal combustion engines that are used exclusively in emergency situations, except that operation for testing or maintenance purposes is allowed for up to 52 hours per year, based on a rolling 12-month average.	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None
GENERATOR	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6603(a)-Table2d.4 § 63.6595(a)(1) § 63.6605(a) § 63.6605(b) § 63.6625(e) § 63.6625(h) § 63.6625(i) § 63.6640(b)	For each existing emergency stationary CI RICE and black start stationary CI RICE, located at an area source, you must comply with the requirements as	§ 63.6625(f) § 63.6625(i) § 63.6640(a) § 63.6640(a)-Table6.9.a.i § 63.6640(a)-Table6.9.a.ii § 63.6640(b)	§ 63.6625(i) § 63.6655(a) § 63.6655(a)(1) § 63.6655(d) § 63.6655(e) § 63.6655(f) § 63.6660(a) § 63.6660(b)	§ 63.6640(b) § 63.6640(e) § 63.6650(f)

**Applicable Requirements Summary**

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition I.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.6640(f)(1) [G]§ 63.6640(f)(2) [G]§ 63.6640(f)(4)	specified in Table 2d.4.a-c.		§ 63.6660(c)	
GENFOTANK	EU	115B-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
GRP-HEATERS	EU	117B-1	NO <sub>x</sub>	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(8)(A)(ii) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO <sub>x</sub> emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C) § 117.8000(b) § 117.8000(c) § 117.8000(c)(1) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) § 117.8010(2)(C) § 117.8010(2)(D) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)

**Applicable Requirements Summary**

<b>Unit Group Process ID No.</b>	<b>Unit Group Process Type</b>	<b>SOP Index No.</b>	<b>Pollutant</b>	<b>State Rule or Federal Regulation Name</b>	<b>Emission Limitation, Standard or Equipment Specification Citation</b>	<b>Textual Description (See Special Term and Condition 1.B.)</b>	<b>Monitoring And Testing Requirements</b>	<b>Recordkeeping Requirements (30 TAC § 122.144)</b>	<b>Reporting Requirements (30 TAC § 122.145)</b>
GRP-HEATERS	EU	117B-1	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B) § 117.310(c)(3)	CO emissions must not exceed 400 ppmv at 3.0% O <sub>2</sub> , dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.8000(b) § 117.8000(c) § 117.8000(c)(2) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d) § 117.8120 § 117.8120(2) [G]§ 117.8120(2)(A) § 117.8120(2)(B)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)
HYCO-HTR	EU	117B-1	NO <sub>x</sub>	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(8)(A)(i) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO <sub>x</sub> emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C) § 117.8000(b) § 117.8000(c) § 117.8000(c)(1) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) § 117.8010(2)(C) § 117.8010(2)(D) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)

**Applicable Requirements Summary**

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						alternative methods specified in § 117.9800 to comply with § 117.320.			
HYCO-HTR	EU	117B-1	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B) § 117.310(c)(3)	CO emissions must not exceed 400 ppmv at 3.0% O <sub>2</sub> , dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.8000(b) § 117.8000(c) § 117.8000(c)(2) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d) § 117.8120 § 117.8120(2) [G]§ 117.8120(2)(A) § 117.8120(2)(B)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)

**Permit Shield**

**Permit Shield ..... 20**

### Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/ Inclusive Units		
FLARE	N/A	40 CFR Part 60, Subpart A	Control device is not used to comply with applicable subparts of 40 CFR Parts 60 and 61.
FUGITIVES	N/A	40 CFR Part 60, Subpart VV	Facility is not in the synthetic organic chemicals manufacturing industry.
GENERATOR	N/A	40 CFR Part 60, Subpart IIII	CI ICE was manufactured prior to and not modified/reconstructed after 07/11/2005.
GENFOTANK	N/A	40 CFR Part 60, Subpart Kb	Storage vessel capacity is less than 75m3.
PARTWASH	N/A	30 TAC Chapter 115, Degreasing Processes	Remote reservoir cold solvent cleaner uses solvent with a TVP less than 0.6 psia and has a drain area less than 16 in2.

**New Source Review Authorization References**

**New Source Review Authorization References..... 22**

**New Source Review Authorization References by Emission Unit ..... 23**

### New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

<b>Prevention of Significant Deterioration (PSD) Permits</b>	
PSD Permit No.: PSDTX884	Issuance Date: 02/06/2014
<b>Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.</b>	
Authorization No.: 35716	Issuance Date: 02/06/2014
<b>Permits By Rule (30 TAC Chapter 106) for the Application Area</b>	
Number: 106.183	Version No./Date: 06/18/1997
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.373	Version No./Date: 09/04/2000
Number: 106.532	Version No./Date: 09/04/2000
Number: 5	Version No./Date: 08/30/1988
Number: 7	Version No./Date: 08/30/1988
Number: 7	Version No./Date: 10/04/1995
Number: 8	Version No./Date: 08/30/1988
Number: 8	Version No./Date: 10/04/1995
Number: 39	Version No./Date: 08/30/1988
Number: 39	Version No./Date: 10/04/1995
Number: 51	Version No./Date: 08/30/1988
Number: 51	Version No./Date: 10/04/1995
Number: 53	Version No./Date: 08/30/1988
Number: 53	Version No./Date: 10/04/1995
Number: 101	Version No./Date: 08/30/1988
Number: 106	Version No./Date: 10/04/1995
Number: 107	Version No./Date: 08/30/1988

**New Source Review Authorization References by Emissions Unit**

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

<b>Unit/Group/Process ID No.</b>	<b>Emission Unit Name/Description</b>	<b>New Source Review Authorization</b>
FLARE	HYCO UNIT FLARE SOURCE	35716, PSDTX884
FUGITIVES	FUGITIVES	35716, PSDTX884
GENERATOR	CUMMINS KTA19GS CI ICE - 441 KW	5/08/30/1988
GENFOTANK	DIESEL STORAGE TANK	51/08/30/1988
HEATER	REGENERATION HEATER	7/08/30/1988
HYCO-HTR2	HYCO UNIT PROCESS HEATER	106.183/06/18/1997
HYCO-HTR	HYCO UNIT PROCESS HEATER	35716, PSDTX884
PARTWASH	PARTS CLEANER	107/08/30/1988

**Appendix A**

**Acronym List ..... 25**

## Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM	actual cubic feet per minute
AMOC	alternate means of control
ARP	Acid Rain Program
ASTM	American Society of Testing and Materials
B/PA	Beaumont/Port Arthur (nonattainment area)
CAM	Compliance Assurance Monitoring
CD	control device
COMS	continuous opacity monitoring system
CVS	closed-vent system
D/FW	Dallas/Fort Worth (nonattainment area)
DR	Designated Representative
EIP	El Paso (nonattainment area)
EP	emission point
EPA	U.S. Environmental Protection Agency
EU	emission unit
FCAA Amendments	Federal Clean Air Act Amendments
FOP	federal operating permit
GF	grandfathered
gr/100 scf	grains per 100 standard cubic feet
HAP	hazardous air pollutant
H/G/B	Houston/Galveston/Brazoria (nonattainment area)
H <sub>2</sub> S	hydrogen sulfide
ID No.	identification number
lb/hr	pound(s) per hour
MMBtu/hr	Million British thermal units per hour
MRRT	monitoring, recordkeeping, reporting, and testing
NA	nonattainment
N/A	not applicable
NADB	National Allowance Data Base
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standard (40 CFR Part 60)
NSR	New Source Review
ORIS	Office of Regulatory Information Systems
Pb	lead
PBR	Permit By Rule
PM	particulate matter
ppmv	parts per million by volume
PSD	prevention of significant deterioration
RO	Responsible Official
SO <sub>2</sub>	sulfur dioxide
TCEQ	Texas Commission on Environmental Quality
TSP	total suspended particulate
TVP	true vapor pressure
U.S.C.	United States Code
VOC	volatile organic compound

**Appendix B**

**Major NSR Summary Table ..... 27**

### Major NSR Summary Table

Permit Number: 35716 and PSDTX884				Issuance Date: 02/06/2014			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
3	Process Heater	CO	0.79	2.80	3,7,8,9	10	7
		NO <sub>x</sub>	5.25	18.69	2,3,7,8,9	10	7
		PM	1.10	4.82	3,8,9	10	None
		PM <sub>10</sub>	1.10	4.82	3,8,9	10	None
		PM <sub>2.5</sub>	1.10	4.82	3,8,9	10	None
		SO <sub>2</sub>	1.69	7.08	3,4,8,9	10	None
		VOC	0.51	1.81	3,8,9	10	None
4	Flare - Normal Operation	CO (7)	1442.17	117.33	5,6,11	10	None
		NO <sub>x</sub>	51.18	3.30	5,6,11	10	None
		VOC	31.03	0.64	5,6,11	10	None
		SO <sub>2</sub>	5.11	0.40	5,6,11	10	None
4	MSS (6)	CO (7)	1442.16	343.48	5,6,11	10,12	None
		NO <sub>x</sub>	51.18	8.84	5,6,11	10,12	None
		SO <sub>2</sub>	5.09	0.08	5,6,11	10,12	None
		VOC	31.03	0.44	5,6,11	10,12	None
5	Process Fugitives (5)	CO	2.72	11.91	None	None	None
		VOC	0.23	1.00	None	None	None
7	HyCO Dryer	CO	256.50	74.10	None	None	None

**Footnotes:**

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1  
 NO<sub>x</sub> - total oxides of nitrogen  
 SO<sub>2</sub> - sulfur dioxide  
 PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented  
 PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented  
 PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter  
 CO - carbon monoxide
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Planned maintenance, start-up and shutdown emissions
- (7) PSD-TX-884 pollutant



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
AIR QUALITY PERMIT



A Permit Is Hereby Issued To  
**Praxair, Inc.**

Authorizing the Construction and Operation of  
**Hydrogen and Carbon Monoxide Unit**  
Located at **Texas City, Galveston County, Texas**

Latitude 29° 22' 43" Longitude -94° 54' 9"

Permits: 35716 and PSDTX884

Amendment Date : February 6, 2014

Renewal Date: August 18, 2018

For the Commission

- Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code 116.116 (30 TAC 116.116)]
- Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC 116.120(a), (b) and (c)]
- Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC 116.115(b)(2)(A)]
- Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC 116.115(b)(2)(B)(iii)]
- Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)]
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.

## SPECIAL CONDITIONS

Permit Numbers 35716 and PSD-TX-884

### EMISSION STANDARDS

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit. **(10/06)**
2. Process Heater (Emission Point No. [EPN] 3) emissions shall not exceed 0.06 pound nitrogen oxides (NO<sub>x</sub>) per MMBtu heat input (fuel higher heating value [HHV]).
3. The maximum hourly firing rate of the Process Heater (EPN 3) shall be limited to 87.45 MMBtu/hr (HHV). The total fired duty in a rolling 12-month period is limited to 623,000 MMBtu/yr. The records shall be summed once a month to show compliance with the rolling 12-month value. The maximum firing rate of waste gas from the hydrogen (H<sub>2</sub>)/carbon monoxide (CO) cold box shall be limited to 19.95 MMBtu/hr (HHV) of the total. **(10/06)**
4. Fuel fired in the Process Heater (EPN 3) is limited to pipeline-quality, natural gas as containing, on annual average, no more than 0.25 grain (gr) hydrogen sulfide and 2.0 gr of total sulfur per 100 dry standard cubic meters and waste gas fuel from the H<sub>2</sub>/CO cold box.
5. The flare designated as EPN 4 shall be designed and operated such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal flow conditions. The heating value and velocity requirements shall be satisfied during operations authorized by this permit. **(PSD)**

The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. This shall be ensured by the use of steam or air assist to the flare.

SPECIAL CONDITIONS

Permit Numbers 35716 and PSD-TX-884

Page 2

6. The hourly flow and duration of the individual streams leading to the flare header will be recorded. Streams to be flared are:
  - A. Natural Gas Feed,
  - B. Process Condensate Overhead,
  - C. Cold Box Feed,
  - D. CO Product/Recycle,
  - E. H<sub>2</sub> Pressure Swing Adsorption (PSA) Feed,
  - F. Dryer Feed,
  - G. Cold Box Fuel,
  - H. Carbon Dioxide Compressor Feed and Natural Gas,
  - I. Product Hydrogen,
  - J. Flash Gas,
  - K. PSA Tail Gas Feed,
  - L. Blend Gas Product, and
  - M. Dryer Depressurization, Dryer Nitrogen Purge and Dryer SynGas Purge. **(10/02)**
  
7. The holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Process Heater (EPN 3). The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Stack testing was completed in 1996 and results represent the process heater performance.
  - A. The Texas Commission on Environmental Quality (TCEQ) Houston Regional Office shall be contacted as soon as testing is scheduled, but not less than 45 days prior to sampling to schedule a pretest meeting.

The notice shall include:

- (1) Date for pretest meeting.
- (2) Date sampling will occur.
- (3) Name of firm conducting sampling.
- (4) Type of sampling equipment to be used.
- (5) Method or procedure to be used in sampling.

## SPECIAL CONDITIONS

Permit Numbers 35716 and PSD-TX-884

Page 3

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

A written proposed description of any deviation from sampling procedures specified in permit conditions or the TCEQ or the U.S. Environmental Protection Agency (EPA) sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Houston Regional Director or the Director of the TCEQ Compliance Support Division in Austin shall approve or disapprove of any deviation from specified sampling procedures.

Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Permitting, Remediation and Registration, Air Permits Division in Austin. Test waivers and alternate and/or equivalent procedure proposals for New Source Performance Standards testing which must have the EPA approval shall be submitted to the TCEQ Compliance Support Division Team in Austin.

- B. Air contaminants emitted from the Process Heater (EPN 3) to be tested for include (but are not limited to) NO<sub>x</sub> and CO.
- C. Sampling shall occur within 60 days after initial start-up of the facilities and at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Houston Regional Office. Additional time to comply with the applicable requirements of Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60) and 40 CFR Part 61 requires the EPA approval, and requests shall be submitted to the TCEQ Compliance Support Division in Austin.
- D. The plant shall operate at maximum production rates during stack emission testing. Primary operating parameters that enable determination of production rate shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting. If the plant is unable to operate at maximum rates during testing, the subsequent daily average operating rate shall not exceed the operating rate achieved during the performance test by more than 10 percent.
- E. Copies of the final sampling report shall be forwarded to the TCEQ Houston Regional Office

SPECIAL CONDITIONS

Permit Numbers 35716 and PSD-TX-884

Page 4

and to the Galveston County Air Pollution Control Program, La Marque within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions of Chapter 14 of the TCEQ Sampling Procedures Manual.

8. The holder of this permit shall install, calibrate, maintain and operate totalizing fuel flow meters to measure and record the amount of natural gas fuel and waste fuel gas fired in the Process Heater (EPN 3). The holder of this permit shall develop a program, using the data collected by the totalizing fuel flow meters, to calculate the fired duty of the process heater on a hourly basis. This information shall be maintained as required by the general conditions of this permit.

## SPECIAL CONDITIONS

Permit Numbers 35716 and PSD-TX-884

Page 5

## COMPLIANCE CONDITIONS

9. After the demonstration of initial compliance required in Special Condition No. 7, the totalizing fuel flow meter data and calculations required in Special Condition No. 8 shall constitute the methods for demonstrating continuous compliance with the standards applying to the Process Heater (EPN 3).
10. The holder of this permit shall make and maintain the following:  
  
Records of continuous compliance with the standards applying to the Process Heater (EPN 3) and the Flare (EPN 4), as specified in Special Condition Nos. 6, 7 and 8 shall be maintained for each source for a period of two years and shall be made available to the TCEQ Executive Director or designated representative or any local air pollution control agency having jurisdiction upon request.  
**(PSD)**
11. The following requirements apply to capture systems for the flare designated as EPN 4.
  - A. The flare is used to control CO shall conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system.
  - B. The flare shall not have a bypass.
  - C. If any of the above inspections is not satisfactory, the permit holder shall promptly take necessary corrective action.
12. This permit authorizes emissions from the flare identified as EPN 4 for the following planned maintenance, startup and shutdown (MSS) activities: **(08/08)**

### Planned Startup and Shutdown Activities

The two planned start up and two planned shutdown activities specified in the emission calculation table provided to the TCEQ in Austin dated July 8, 2008. A copy of this document shall be kept at the plant site for ready review at the request of TCEQ personnel or any local air pollution control program with jurisdiction. Off specification material during the planned hot start ups, due to the gaseous nature of the material, every stream will be sent to the flare until desired purity obtained for both hydrogen and carbon monoxide (F1 to F12).

## SPECIAL CONDITIONS

Permit Numbers 35716 and PSD-TX-884

Page 6

### Planned Maintenance Activities

1. Replace or repair control valves and/or positioners on Hydrogen Pressure Swing Adsorber (From F5 vent stream, occurs once in a rolling twelve month period for up to a maximum of eighteen hours)
2. Replace or repair control valve or positioners on pre-purifier beds (From F6 vent stream, occurs once in a rolling twelve month period for up to a maximum of eighteen hours)
3. Replace pressure transmitters and/or switches on process heaters (From F7 vent stream, occurs once in a rolling twelve month period for up to a maximum of twelve hours)
4. Replace valves and other planned maintenance on CO2 compressor (From F8 vent stream, occurs up to a maximum of three times in a rolling twelve month period for up to a maximum of eighteen hours per activity)
5. Replace valves and other planned maintenance on tail gas compressor and/or planned maintenance on surge tank pressure transmitters. (From F10 vent stream, occurs up to a maximum of one time in a rolling twelve month period for up to a maximum of eighteen hours)
6. Replace valves and other planned maintenance on tail gas compressor (From F11, occurs once in a rolling twelve month period up to a maximum of eighteen hours)
7. Flaring due to sudden change in external customer demand as specified in the emission calculation table provided to the TCEQ in Austin dated July 8, 2008.

Planned MSS activities not in the above lists are not authorized by this permit. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The performance of each planned MSS activity and the emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information:

- A. The physical location at which emissions from the planned MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;
- B. The type of planned MSS activity and the reason for the planned activity;

SPECIAL CONDITIONS

Permit Numbers 35716 and PSD-TX-884

Page 7

- C. The common name and the facility identification number of the facilities at which the planned MSS activity and emissions occurred; and
- D. The date and time of the planned MSS activity and its duration;
- E. The estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the permit application consistent with good engineering practice.

Dated August 18, 2008

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 35716 and PSDTX884

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
3	Process Heater	CO	0.79	2.80
		NO <sub>x</sub>	5.25	18.69
		PM	1.10	4.82
		PM <sub>10</sub>	1.10	4.82
		PM <sub>2.5</sub>	1.10	4.82
		SO <sub>2</sub>	1.69	7.08
		VOC	0.51	1.81
4	Flare - Normal Operation	CO (7)	1442.17	117.33
		NO <sub>x</sub>	51.18	3.30
		VOC	31.03	0.64
		SO <sub>2</sub>	5.11	0.40
4	(6)	CO (7)	1442.16	343.48
		NO <sub>x</sub>	51.18	8.84
		SO <sub>2</sub>	5.09	0.08
		VOC	31.03	0.44
5	Process Fugitives (5)	CO	2.72	11.91
		VOC	0.23	1.00
7	HyCO Dryer	CO	256.50	74.10

Emission Sources - Maximum Allowable Emission Rates

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- NO<sub>x</sub> - total oxides of nitrogen
- SO<sub>2</sub> - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented
- PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented
- PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Planned maintenance, start-up and shutdown emissions
- (7) PSD-TX-884 pollutant

Date: February 6, 2013